UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,655	10/18/2004	Inonete Markman	PU020121	2064

24498	7590	10/24/2005

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EXAMINER
RIZK, SAMIR WADIE

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 10/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/511,655	MARKMAN, INONETE
	Examiner	Art Unit	
	Sam Rizk	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/18/05*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTIONS

- Claims 1-25 have been submitted for examination

- Claims 1-25 have been rejected

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, the "means for

substantially continuously updating ...."As being indefinite for failing to

particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

2.   Claim 6 is rejected under 35 U.S.C. 112, second paragraph, the " ......trace

pointer thereby being **substantially continuously** updated ...."As being

indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Safavi et al. US publication no. US 2—3/0123579 A1 (Hereinafter Safavi).

3.   In regard to claim 1, Safavi teaches;

-   In a system for processing data comprising groups of trellis encoded data packets, apparatus for providing trellis decoded data, comprising:

-   Means for generating decision data associated with trellis state transitions in response to said encoded data packets;

-   A traceback network responsive to said decision data for identifying a sequence of antecedent trellis states, as determined by a state transition trellis, wherein said antecedent trellis states are identified for a sequence of data packets; means for selecting a desired trellis state path from the antecedent trellis states;

-   Means for substantially continuously updating the desired trellis state path at each new trellis branch; and

-   Means responsive to said identified sequence of antecedent trellis states, for providing said trellis decoded data.

    (Note: page 5, sections [0088]-[0090], in Safavi).

4.   In regard to claim 2, Safavi teaches;

- A system according to claim 1, wherein the traceback network further

  comprises:

- Means for performing an all-path traceback through the trellis; and

- Means for performing an all-path forward trace through the trellis.

  (Note: Figure 12 and page 5, section [0090] in Safavi).

5.   In regard to claim 3, Safavi teaches;

- A system according to claim 2, further including means for

  continuously identifying the desired trellis state path at each new trellis

  branch with a **forward trace pointer** by identifying antecedent trellis

  states with said decision data.

  (Note: col. 5, section [0090], line 12 in Safavi).

6.   In regard to claim 4, Safavi teaches;

- A system according to claim 3, wherein the desired trellis state

  path is a minimum metric path among all trellis states.

  (Note: page 2, Esq. 1-2 in Safavi).

7.   In regard to claim 5, Safavi teaches;

- A system according to claim 3, wherein the means for performing an

  all-path forward trace further comprises:

- A first pointer for each trellis state path, the first pointer having a first

  pointer value, the first pointer value being updated at each new trellis

  branch throughout the duration of an epoch;

- A second pointer for each trellis state path, the second pointer having

  a second pointer value, the second value being updated at an epoch

  boundary; and

- wherein each epoch is T/2, the traceback interval T defining a survivor

  memory depth of a decoded data sequence residing within a trellis

  encoded data sequence.

  (Note: Figure 13 A & B. Page 6, section [0091] in Safavi).

8.   In regard to claim 6, Safavi teaches;

- A system according to claim 5, wherein the forward trace pointer

  is continuously responsive to both the first pointer value and the

  second pointer value, the forward trace pointer thereby being

  substantially continuously updated at each trellis branch during an

  epoch.

  (Note: page 5, section [0090], line 12 and page 6, line 1-3 in Safavi).

9.   Claims 7-9 are rejected for the same reasons as claim 6.

10.   In regard for Claim 10, Safavi teaches;

- A system according to claim 2, wherein the traceback network further

  comprises:

- means for writing the input encoded data into a buffer memory (Note:

  figure 3, reference 210 in Safavi) unit in the order of data arrival for an

  epoch at a time;

- means for reading the data from the buffer memory unit during the

following epoch and sending it to the all-path traceback unit;

(Note: page 5, section [0084] in Safavi).

- means for sending the decoded outputs from the all-path traceback

unit to a decoded sequence memory unit as the all-path traceback unit

traces back through the trellis with the data read from the buffer

memory unit;

(Note: Fig. 3 and page 2, section [0033] in Safavi).

- means for reading the decoded data from the decoded sequence

memory unit in reverse order of arrival, one epoch at a time;

- means for multiplexing the decoded data outputs from the decoded

sequence memory unit in order to choose one of N decoded

sequences, where N is the number of states in the trellis;

- means for selecting a decoded data output sample from the decoded

sequence memory via a multiplexer unit according to the value of the

forward trace pointer.

(Note: Fig. 3 and page 2, section [0033] in Safavi).

11.   Claim 11 is rejected for the same reasons as claim 1.

12.   Claim 12 is rejected for the same reasons as claim 5.

13.   Claims 13-17 are rejected for the same reasons as claim 10.

14.   Claims 18-22 are rejected for the same reasons as claim 10

15.   Claims 23-25 are rejected for the same reasons as claim 10.

Conclusion

16.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

- Liu et al (US patent no. 6775334 B1) teaches equalization and

  decision-directed loops with trellis demodulation in high definition

  TV

- Choi et al (US patent no. 5796756) teaches survivor memory

  device in viterbi decoder using trace deletion method

- Apparatus and method for implementing a decoder for

  convolutionally encoded symbols.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Sam Rizk whose telephone number is (571) 272-

8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone

number for the organization where this application or proceeding is assigned is
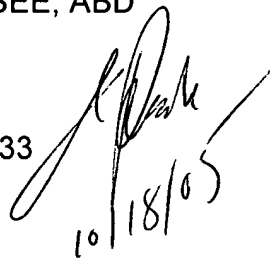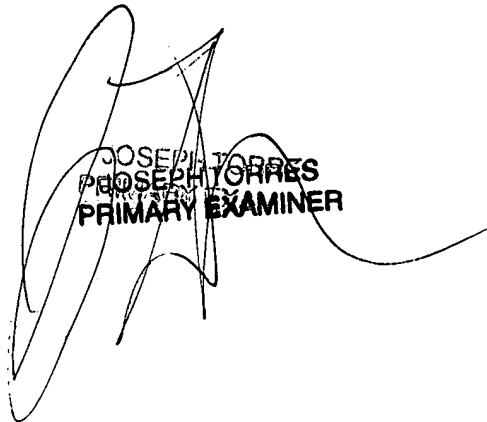
(703) 872-9306.

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Should you have questions on access to the Private PAIR system, contact the

Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk, MSEE, ABD

Examiner

ART UNIT 2133

JOSEPH TORRES
PRIMARY EXAMINER